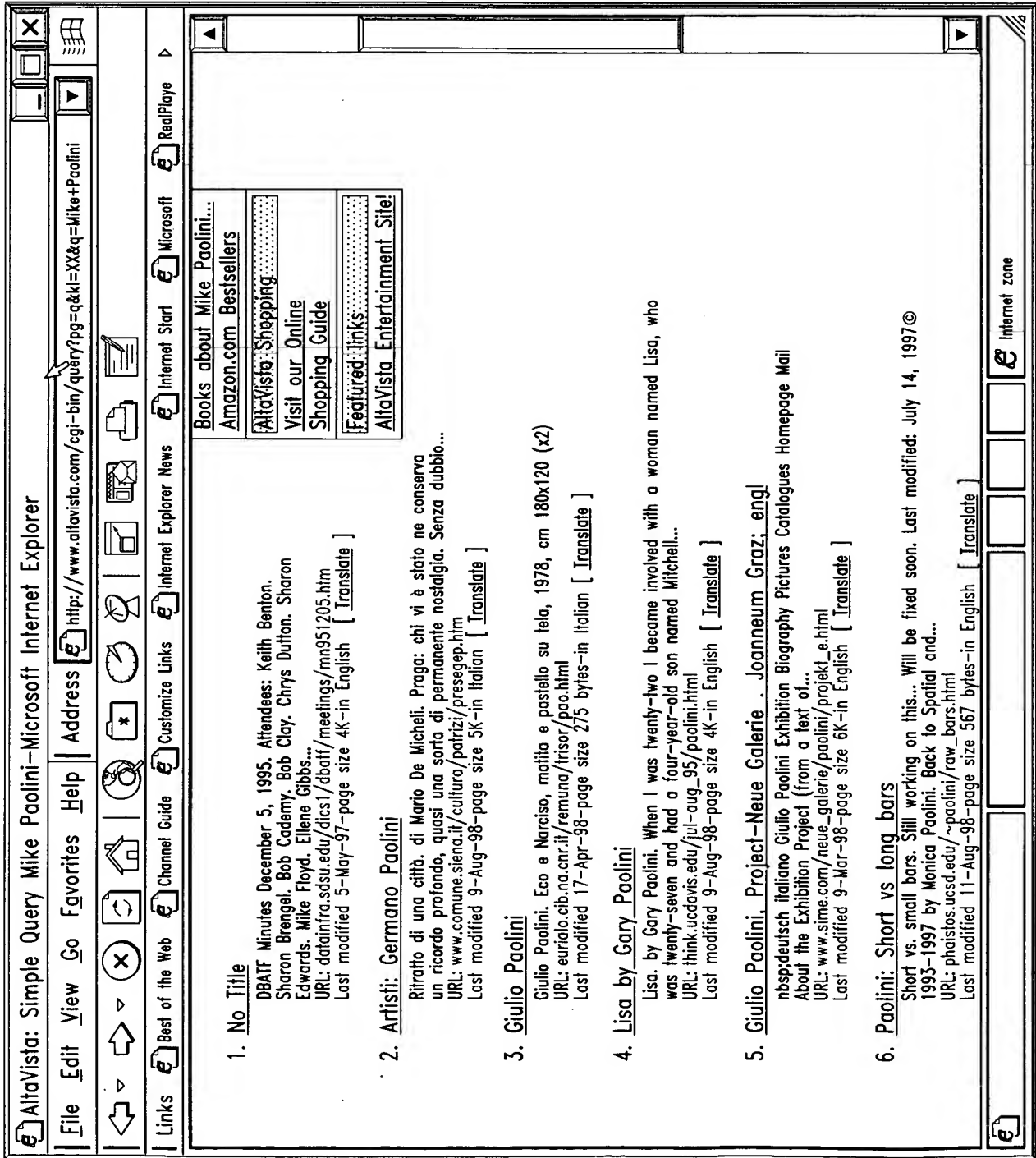10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
1/12

FIG. 1
(PRIOR ART)
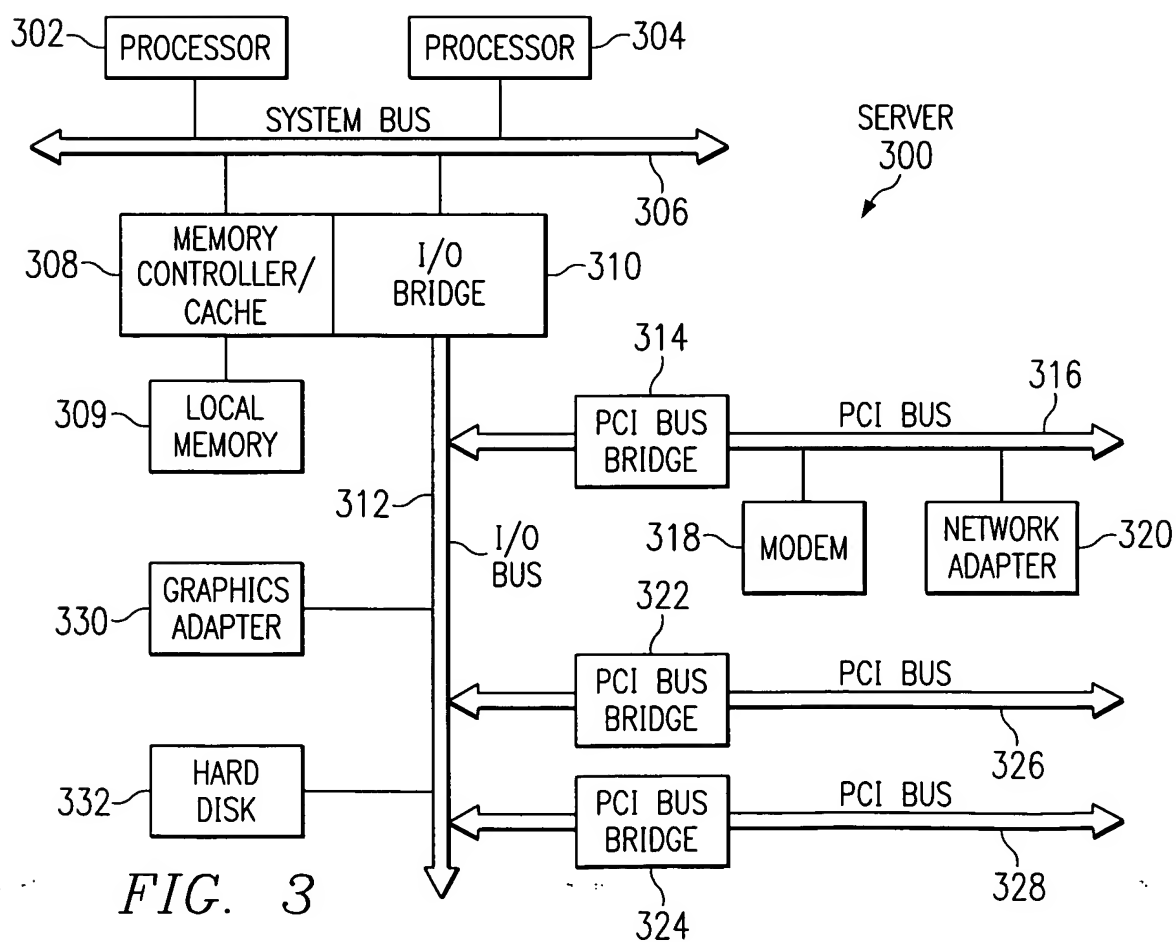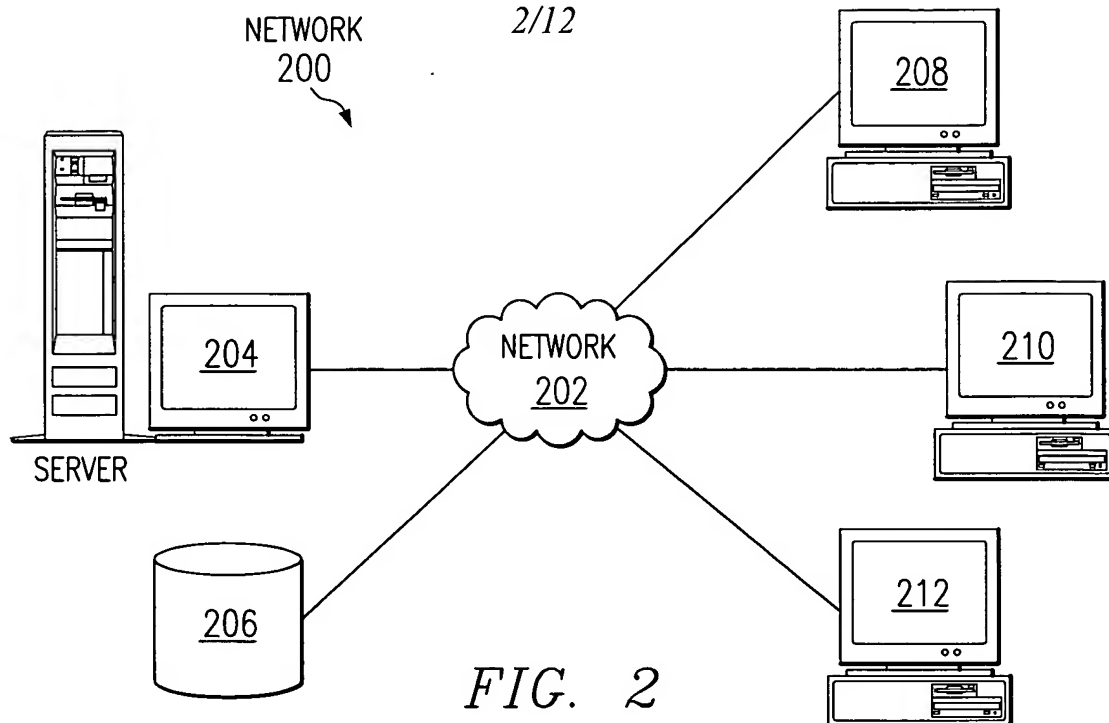
AltaVista: Simple Query Mike Paolini–Microsoft Internet Explorer

File   Edit   View   Go   Favorites   Help

Address http://www.altavista.com/cgi-bin/query?pg=q&kl=XX&q=Mike+Paolini

Links   Best of the Web   Channel Guide   Customize Links   Internet Explorer News   Internet Start   Microsoft   RealPlaye

Books about Mike Paolini...
Amazon.com Bestsellers
AltaVista Shopping
Visit our Online
Shopping Guide
Featured links:
AltaVista Entertainment Site!

1. No Title
DBATF Minutes December 5, 1995. Attendees: Keith Benton.
Sharon Brengel. Bob Cademy. Bob Clay. Chrys Dutton. Sharon
Edwards. Mike Floyd. Ellene Gibbs...
URL: datainfra.sdsu.edu/dics1/dbatf/meetings/mn951205.htm
Last modified 5–May–97–page size 4K–in English   [Translate]

2. Artisti: Germano Paolini
Ritratto di una città. di Mario De Micheli. Praga: chi vi è stato ne conserva
un ricordo profondo, quasi una sorta di permanente nostalgia. Senza dubbio...
URL: www.comune.siena.it/cultura/patrizi/presegep.htm
Last modified 9–Aug–98–page size 5K–in Italian [Translate]

3. Giulio Paolini
Giulio Paolini. Eco e Narciso, matita e pastello su tela, 1978, cm 180x120 (x2)
URL: euriolo.cib.na.cnr.it/remuna/frisor/pao.html
Last modified 17–Apr–98–page size 275 bytes–in Italian [Translate]

4. Lisa by Gary Paolini
Lisa. by Gary Paolini. When I was twenty–two I became involved with a woman named Lisa, who
was twenty–seven and had a four–year–old son named Mitchell...
URL: think.ucdavis.edu/jul–aug_95/paolini.html
Last modified 9–Aug–98–page size 4K–in English [Translate]

5. Giulio Paolini, Project–Neue Galerie . Joanneum Graz; engl
nbsp;deutsch italiano Giulio Paolini Exhibition Biography Pictures Catalogues Homepage Mail
About the Exhibition Project (from a text of...
URL: www.sime.com/neue_galerie/paolini/projekt_e.html
Last modified 9–Mar–98–page size 6K–in English [Translate]

6. Paolini: Short vs long bars
Short vs. small bars. Still working on this... Will be fixed soon. Last modified: July 14, 1997©
1993–1997 by Monica Paolini. Back to Spatial and...
URL: phaistos.ucsd.edu/~paolini/raw_bars.html
Last modified 11–Aug–98–page size 567 bytes–in English [Translate]

Internet zone

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
2/12

NETWORK
200

208

NETWORK
202

204

210

SERVER

206

212

FIG. 2

302 PROCESSOR   PROCESSOR 304

SYSTEM BUS

SERVER
300

306

308 MEMORY CONTROLLER/ CACHE   I/O BRIDGE 310

314

309 LOCAL MEMORY

PCI BUS BRIDGE   PCI BUS 316

312   I/O BUS

318 MODEM   NETWORK ADAPTER 320

330 GRAPHICS ADAPTER

322

PCI BUS BRIDGE   PCI BUS

332 HARD DISK

326

PCI BUS BRIDGE   PCI BUS

FIG. 3

324

328

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server

3/12

FIG. 4

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
4/12

FIG. 5

508

WEB

REQUEST
FOR WEB PAGE

WEB PAGE

506

CLIENT

BROWSER

BROWSER REQUEST

MODIFIED WEB PAGE

PROXY
SERVER

504

502

FIG. 6

605 — USER SELECTS
WEB PAGE

610 — SERVER PARSES WEB
PAGE FOR LINKS

615 — SERVER CHECKS CACHE

620 — SERVER PREFETCHES
LINKED PAGES
NOT CACHED

625 — SERVER GENERATES
THUMBNAILS OF LINKED
PAGES NOT CACHED

630 — SERVER SENDS WEB
PAGE AND THUMBNAILS
TO CLIENT

FIG. 7

RECEIVE REQUEST
FOR WEB CONTENT — 710

715

HAS USER
SELECTED THUMBNAIL
OPTION?

NO

SEND WEB
PAGE WITHOUT
THUMBNAILS

720

YES

PARSE WEB
PAGE FOR LINKS — 725

GET CACHED PAGES AND
PREFETCH LINKED PAGES — 730

GENERATE THUMBNAILS
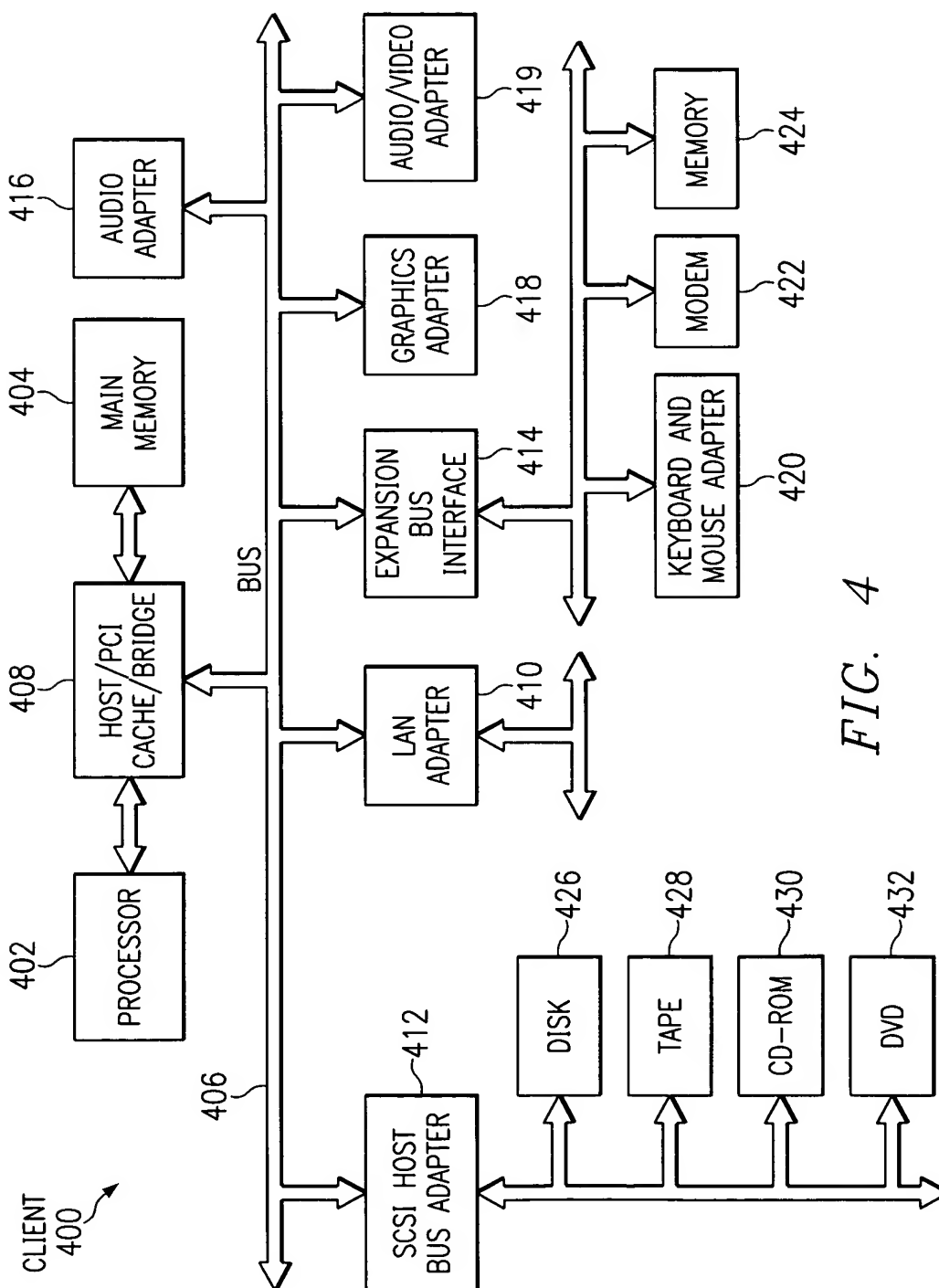OF UNCACHED PAGES — 735

CACHE NEW THUMBNAILS — 740

SEND
THUMBNAILS — 750

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
5/12

FIG. 8

800

AltaVista: Simple Query Mike Paolini-Microsoft Internet Explorer

File   Edit   View   Go   Favorites   Help

Address | http://www.altavista.com/cgi-bin/query?pg=q&kl=XX&q=Mike+Paolini

Links | Best of the Web | Channel Guide | Customize Links | Internet Explorer News | Internet Start | Microsoft | RealPlaye

1. No Title
   DBAIF Minutes December 5, 1995. Attendees: Keith Benton. Sharon Brengel. Bob Cademy. Bob Clay. Chrys Dutton. Sharon Edwards. Mike Floyd. Ellene Gibbs....
   URL: datainfra.sdsu.edu/dics1/dbaff/meetings/mn951205.htm
   Last modified 5-May-97-page size 4K-in English [Translate]

2. Artisti: Germano Paolini
   Ritratto di una città. di Mario De Micheli. Praga: chi vi è stato ne conserva un ricordo profondo, quasi una sorta di permanente nostalgia. Senza dubbio...
   URL: www.comune.siena.it/cultura/patrizi/presegep.htm
   Last modified 9-Aug-98-page size 5K-in Italian [Translate]

3. Giulio Paolini
   Giulio Paolini. Eco e Narciso, matita e pastello su tela, 1978, cm 180x120 (x2)
   URL: eurialo.cib.na.cnr.it/remuna/lrisor/pao.html
   Last modified 17-Apr-98-page size 275 bytes-in Italian [Translate]

4. Lisa by Gary Paolini
   Lisa. by Gary Paolini. When I was twenty-two I became involved with a woman named Lisa, who was twenty-seven and had a four-year-old son named Mitchell...
   URL: think.ucdavis.edu/jul-aug_95/paolini.html
   Last modified 9-Aug-98-page size 4K-in English [Translate]

5. Giulio Paolini, Project-Neue Galerie . Joanneum Graz; engl
   nbsp;deutsch italiano Giulio Paolini Exhibition Biography Pictures Catalogues Homepage Mail About the Exhibition Project (from a text of...
   URL: www.sime.com/neue_galerie/paolini/projekt_e.html
   Last modified 9-Mar-98-page size 6K-in English [Translate]

6. Paolini: Short vs long bars
   Short vs. small bars. Still working on this... Will be fixed soon. Last modified: July 14, 1997 1993-1997 by Monica Paolini. Back to Spatial and...
   URL: phaistos.ucsd.edu/~paolini/row_bars.html
   Last modified 11-Aug-98-page size 567 bytes-in English [Translate]

Books about Mike Paolini...
Amazon.com Bestsellers
AltaVista Shopping
Visit our Online
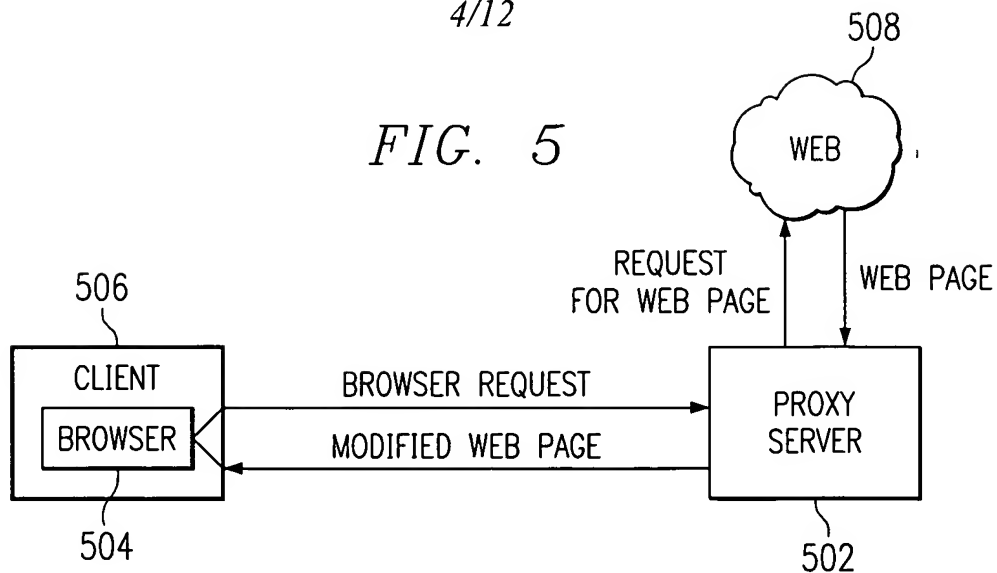Shopping Guide
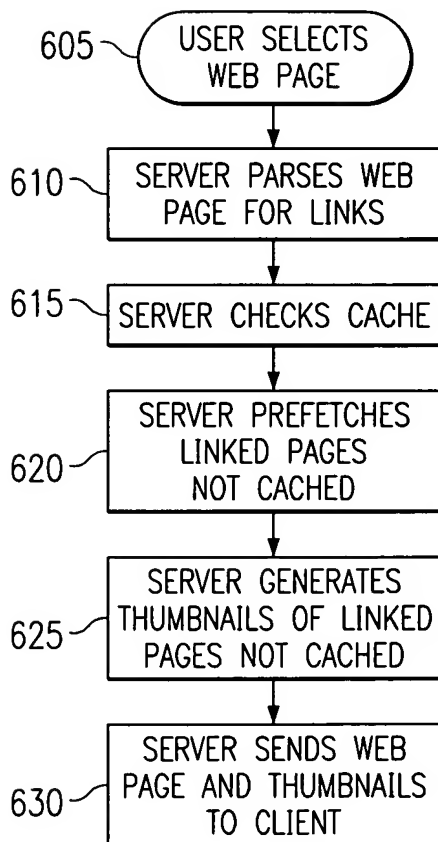Featured Links
AltaVista Entertainment Site!

Internet zone

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
6/12

FIG. 9

905 — RECEIVE REQUEST FOR WEB PAGE AND USER CRITERIA

910 — RETRIEVE WEB PAGE

920 — PARSE WEB PAGE FOR USER CRITERIA

930 — PARSE ANY PREFETCHED PAGES FOR USER CRITERIA

940 — APPLY USER CONFIGURED PREFERENCES

950 — CHANGE THE APPEARANCE OF THE WEB PAGE IN RESPONSE TO FINDING CRITERIA IN OTHER WEB PAGES

960 — SEND MODIFIED WEB PAGE TO USER
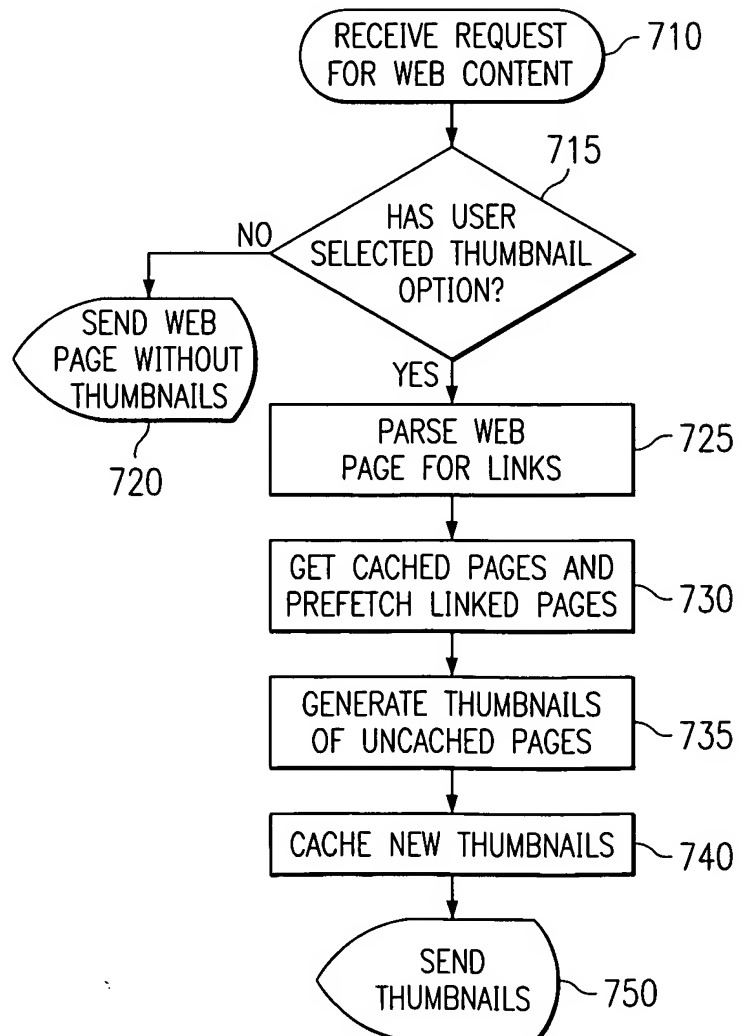
10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
7/12

FIG. 10

AltaVista: Simple Query Mike Paolini–Microsoft Internet Explorer

File Edit View Go Favorites Help

Address http://www.altavista.com/cgi–bin/query?pg=q&kl=XX&q=Mike+Paolini

Links Best of the Web Channel Guide Customize Links Internet Explorer News Internet Start Microsoft RealPlaye

Books about Mike Paolini...
Amazon.com Bestsellers
AltaVista Shopping
Visit our Online
Shopping Guide
Featured Links
AltaVista Entertainment Site!

1. No Title
DO NOT ENTER
DBATF Minutes December 5, 1995. Attendees: Keith Benton.
Sharon Brengel. Bob Cademy. Bob Clay. Chrys Dutton. Sharon
Edwards. Mike Floyd. Ellene Gibbs...
URL: datainfra.sdsu.edu/dics1/dbatf/meetings/mn951205.htm
Last modified 5–May–97–page size 4K–in English [Translate]

2. Artisti: Germano Paolini
Ritratto di una città. di Mario De Micheli. Praga: chi vi è stato ne conserva
un ricordo profondo, quasi una sorta di permanente nostalgia. Senza dubbio...
URL: www.comune.siena.it/cultura/patrizi/presegep.htm
Last modified 9–Aug–98–page size 5K–in Italian [Translate]

3. Giulio Paolini
Giulio Paolini. Eco e Narciso, matita e pastello su tela, 1978, cm 180x120 (x2)
URL: euriolo.cib.na.cnr.it/remuna/rrisor/pao.html
Last modified 17–Apr–98–page size 275 bytes–in Italian [Translate]

4. Lisa by Gary Paolini
Lisa. by Gary Paolini. When I was twenty–two I became involved with a woman named Lisa, who
was twenty–seven and had a four–year–old son named Mitchell...
URL: think.ucdavis.edu/jul–aug_95/paolini.html
Last modified 9–Aug–98–page size 4K–in English [Translate]

5. Giulio Paolini: Project–Neue Galerie . Joanneum Graz: engl
nbsp;deutsch italiano Giulio Paolini Exhibition Biography Pictures Catalogues Homepage Mail
About the Exhibition Project (from a text of...
URL: www.sime.com/neue_galerie/paolini/projekt_e.html
Last modified 9–Mar–98–page size 6K–in English [Translate]

6. Paolini: Short vs long bars
Short vs. small bars. Still working on this... Will be fixed soon. Last modified: July 14, 1997
1993–1997 by Monica Paolini. Back to Spatial and...
URL: phaistos.ucsd.edu/~paolini/raw_bars.html
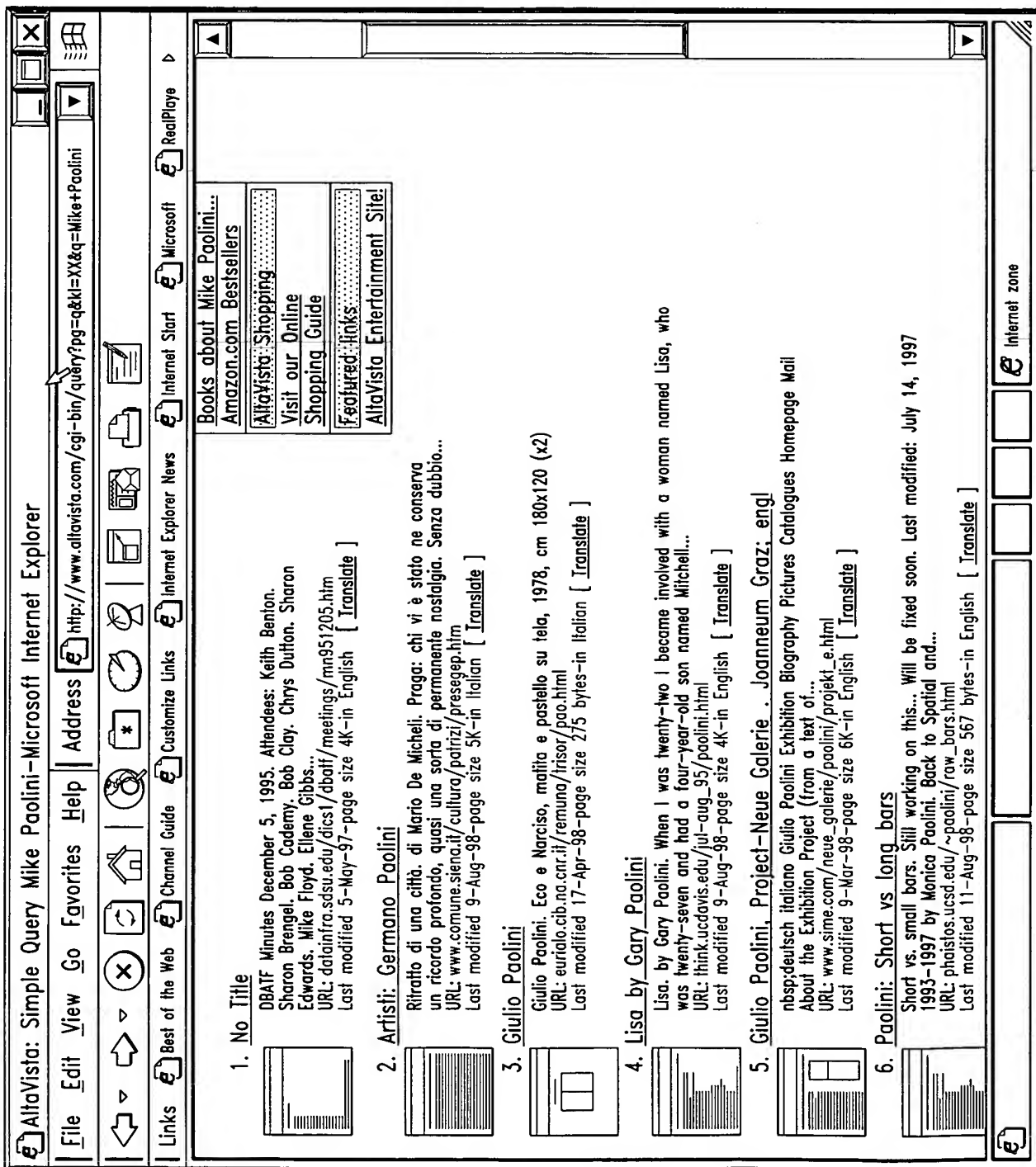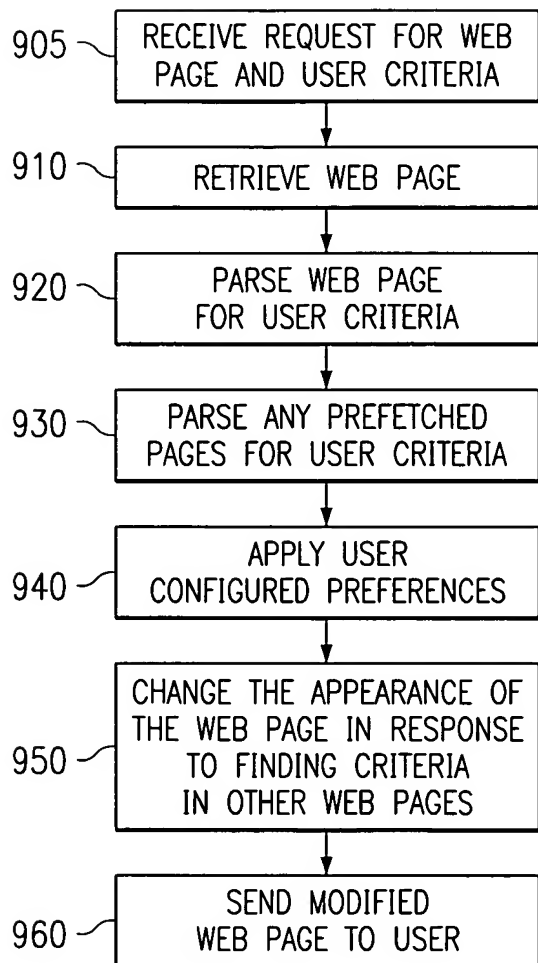Last modified 11–Aug–98–page size 567 bytes–in English [Translate]

Internet zone

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
8/12

FIG. 11A

1110 — USER CONFIGURES CRITERIA PREFERENCES AND DISPLAY SETTINGS FOR THE NAVIGATION ASSISTANT

1120 — USER ACCESSES WEB PAGE

1121 — PARSE WEB PAGE FOR SPECIFIED CRITERIA

1122 — ARE USER SPECIFIED CRITERIA PRESENT ON WEB PAGE?

YES → 1124 MODIFY WEB PAGE APPEARANCE IN ACCORDANCE WITH USER CONFIGURATION TO INDICATE PRESENCE OF USER SPECIFIED CRITERIA

NO

1126 — HAS USER CONFIGURED DISPLAY SETTINGS WHEN SPECIFIED CRITERIA NOT FOUND?

YES → MODIFY WEB PAGE APPEARANCE INDICATING SPECIFIED CRITERIA NOT FOUND ON WEB PAGE 1128

NO

1130 — DO NOT ALTER DISPLAY

1135 — DOES WEB PAGE CONTAIN LINKS?

NO → B TO FIG. 11B

YES

1150 — FIRST PREFETCHED PAGE IS SCANNED FOR MATCHES TO USER CONFIGURATION

A TO FIG. 11B

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server

9/12

FROM FIG. 11A

A

1160 ARE USER SPECIFIED CRITERIA PRESENT?

— YES → **1165** MODIFY WEB PAGE APPEARANCE IN ACCORDANCE WITH USER CONFIGURATION TO INDICATE PRESENCE OF USER SPECIFIED CRITERIA

NO ↓

1170 HAS USER CONFIGURED DISPLAY SETTINGS WHEN SPECIFIED CRITERIA NOT FOUND?

— YES → MODIFY WEB PAGE APPEARANCE INDICATING SPECIFIED CRITERIA NOT FOUND FOR PARTICULAR LINK **1175**

NO ↓

DO NOT ALTER DISPLAY ~1180

DOES PREFETCH CONTAIN ANOTHER LINK?

— NO → FROM FIG. 11A

B

SEND WEB PAGE TO USER ~1193

WAIT UNTIL NEW WEB PAGE IS LOADED ~1195

YES ↓ **1190**

NEXT PREFETCHED PAGE IS SCANNED FOR CONTENT PREFERENCES **1192**

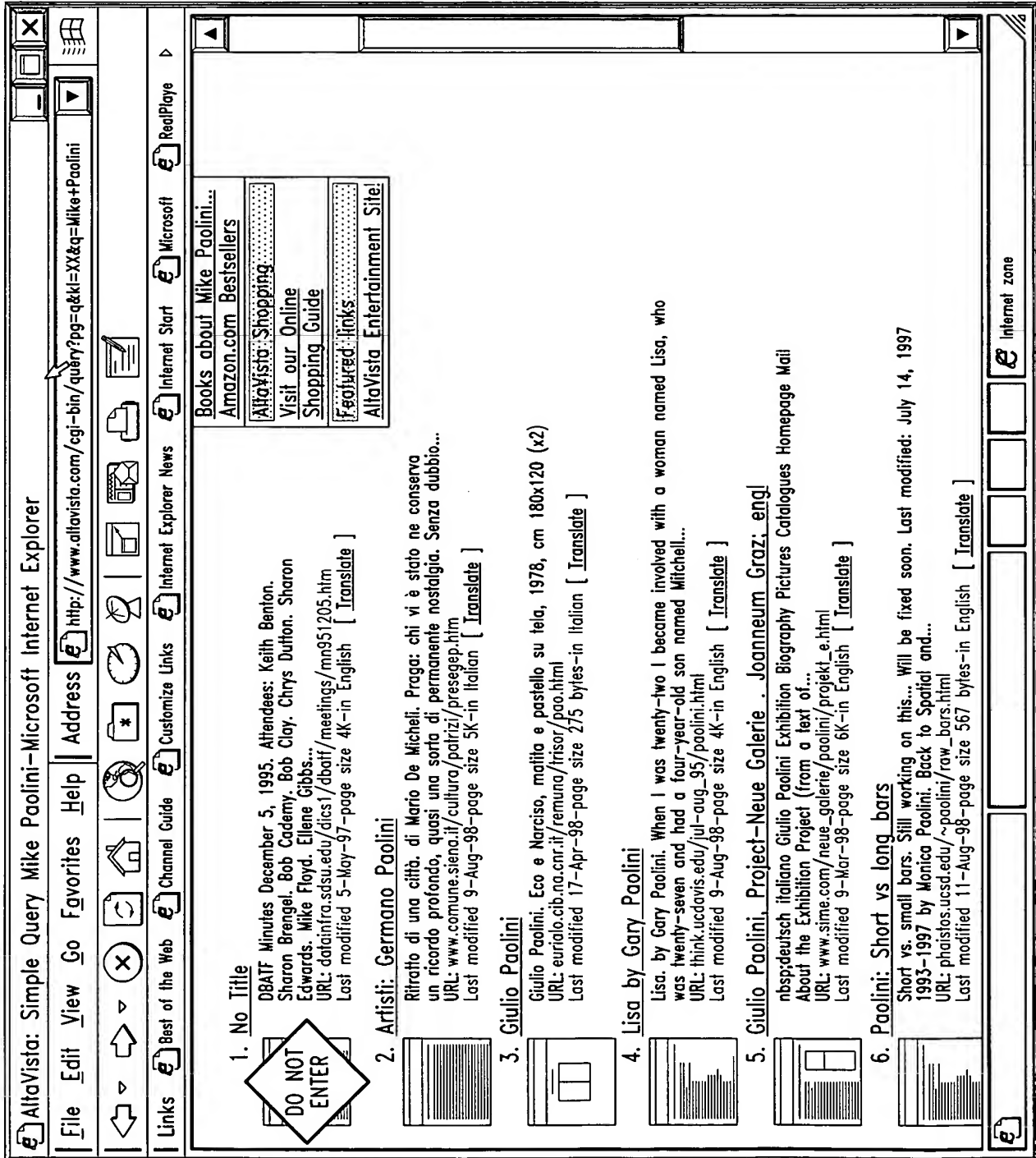*FIG. 11B*

10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
10/12

FIG. 12

1205
HAS USER CONFIGURED FOR LAYERED PREFETCH?

NO

YES

1210
DOES LINKED PAGE CONTAIN AN EXCESSIVE NUMBER OF BROKEN LINKS?

YES → ALTER DISPLAY TO INDICATE THAT LINKED PAGE CONTAINS AN EXCESSIVE NUMBER OF BROKEN LINKS
1215

NO

1220
DOES WEB PAGE CONTAIN NEGATIVE PREFERENCES?

YES → ALTER DISPLAY TO TO INDICATE WARNING
1225

NO

1230
DOES WEB PAGE CONTAIN MORE THAN A THRESHOLD OF PREFERRED USER CRITERIA?

YES → ALTER USER DISPLAY TO INDICATE LINK EXCEEDS THRESHOLD
1235

NO

1240
DOES WEB PAGE CONTAIN SOME OF PREFERRED USER CRITERIA?

YES → CONFIGURE DISPLAY TO INDICATE PRESENCE OF SOME OF USER'S PREFERRED CRITERIA
1245

NO

1250
DOES USER WANT DISPLAY ALTERED TO INDICATE NO MATCH?

YES → ALTER DISPLAY TO INDICATE NO MATCH TO USER PREFERENCES
1255

NO

1260 — DO NOT ALTER DISPLAY
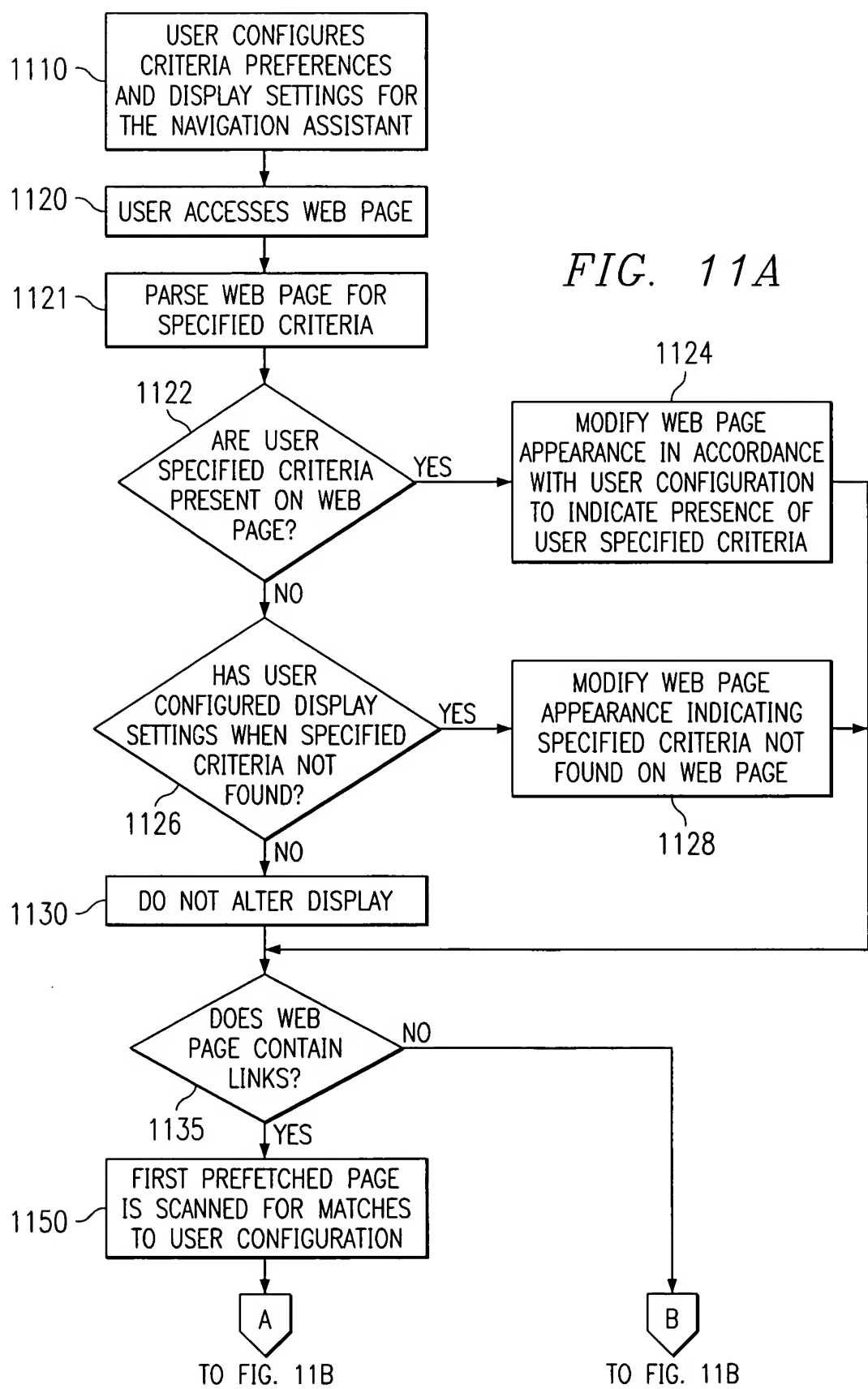
1270
CONTINUE PROCESSING WEB PAGE AND OTHER PREFETCHED PAGES
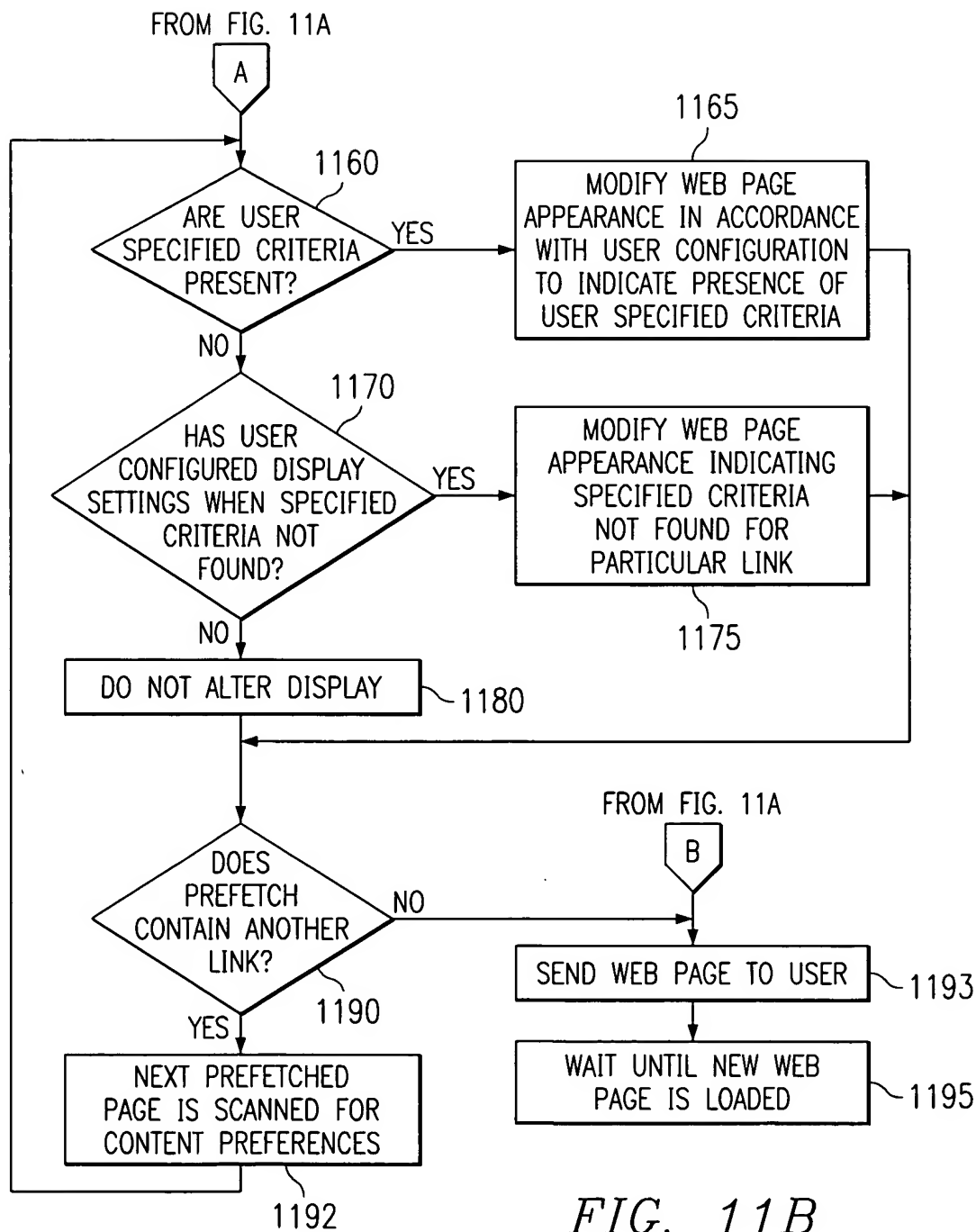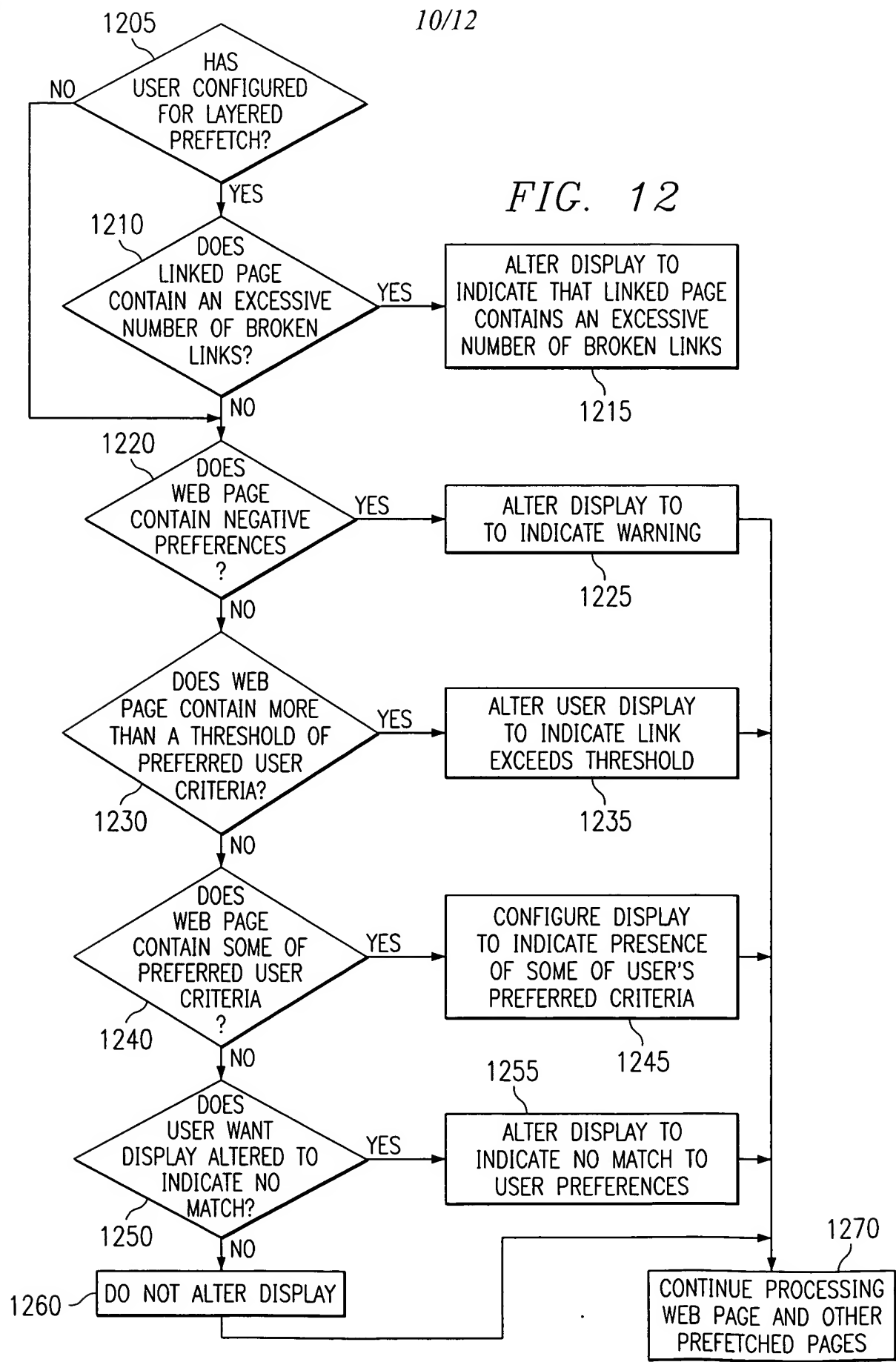
10/662,611
Brown et al.
Web Page Thumbnails and User Configured
Complementary Information Provided from a Server
11/12

FIG. 13

AltaVista: Simple Query Mike Paolini—Microsoft Internet Explorer

File   Edit   View   Go   Favorites   Help

Address http://www.altavista.com/cgi-bin/query?pg=q&kl=XX&q=Mike+Paolini

Links   Best of the Web   Channel Guide   Customize Links   Internet Explorer News   Internet Start   Microsoft   RealPlaye

Books about Mike Paolini...
Amazon.com Bestsellers
AltaVista Shopping
Visit our Online
Shopping Guide
Featured links:
AltaVista Entertainment Site!

1. No Title

DBAIF Minutes December 5, 1995. Attendees: Keith Benton.
Sharon Brengel. Bob Cademy. Bob Clay. Chrys Dutton. Sharon
Edwards. Mike Floyd. Ellene Gibbs...
URL: datainfra.sdsu.edu/dics1/dbatf/meetings/mn951205.htm
Last modified 5-May-97-page size 4K-in English [Translate]

2. Artisti: Germano Paolini

Ritratto di una città. di Mario De Micheli. Praga: chi vi è stato ne conserva
un ricordo profondo, quasi una sorta di permanente nostalgia. Senza dubbio...
URL: www.comune.siena.it/cultura/patrizi/presegep.htm
Last modified 9-Aug-98-page size 5K-in Italian [Translate]

3. Giulio Paolini

Giulio Paolini, Eco e Narciso, matita e pastello su tela, 1978, cm 180x120 (x2)
URL: eurialo.cib.na.cnr.it/remuna/trisor/pao.html
Last modified 17-Apr-98-page size 275 bytes-in Italian [Translate]

4. Lisa by Gary Paolini

Lisa. by Gary Paolini. When I was twenty-two I became involved with a woman named Lisa, who
was twenty-seven and had a four-year-old son named Mitchell...
URL: think.ucdavis.edu/jul-aug_95/paolini.html
Last modified 9-Aug-98-page size 4K-in English [Translate]

5. Giulio Paolini, Project-Neue Galerie . Joanneum Graz; engl

nbsp;deutsch italiano Giulio Paolini Exhibition Biography Pictures Catalogues Homepage Mail
About the Exhibition Project (from a text of...
URL: www.sime.com/neue_galerie/paolini/projekt_e.html
Last modified 9-Mar-98-page size 6K-in English [Translate]

6. Paolini: Short vs long bars

Short vs. small bars. Still working on this... Will be fixed soon. Last modified: July 14, 1997
1993-1997 by Monica Paolini. Back to Spatial and...
URL: phaistos.ucsd.edu/~paolini/raw_bars.html
Last modified 11-Aug-98-page size 567 bytes-in English [Translate]

Internet zone

FIG. 14

AltaVista: Simple Query Mike Paolini–Microsoft Internet Explorer

File Edit View Go Favorites Help

Address http://www.altavista.com/cgi-bin/query?pg=q&kl=XX&q=Mike+Paolini

Links Best of the Web Channel Guide Customize Links Internet Explorer News Internet Start Microsoft RealPlaye

1. No Title
DBATF Minutes December 5, 1995. Attendees: Keith Benton.
Sharon Brengel. Bob Cademy. Bob Clay. Chrys Dutton. Sharon
Edwards. Mike Floyd. Ellene Gibbs...
URL: datainfra.sdsu.edu/dics1/dbatf/meetings/mn951205.htm
Last modified 5–May–97–page size 4K–in English [Translate]

2. Artisti: Germano Paolini
Ritratto di una città. di Mario De Micheli. Praga: chi vi è stato ne conserva
un ricordo profondo, quasi una sorta di permanente nostalgia. Senza dubbio...
URL: www.comune.siena.it/culturo/patrizi/presegep.htm
Last modified 9–Aug–98–page size 5K–in Italian [Translate]

3. Giulio Paolini
Giulio Paolini. Eco e Narciso, matita e pastello su tela, 1978, cm 180x120 (x2)
URL: eurialo.cib.na.cnr.it/remuna/rrisor/pao.html
Last modified 17–Apr–98–page size 275 bytes–in Italian [Translate]

4. Lisa by Gary Paolini
Lisa. by Gary Paolini. When I was twenty–two I became involved with a woman named Lisa, who
was twenty–seven and had a four–year–old son named Mitchell...
URL: think.ucdavis.edu/jul–aug_95/paolini.html
Last modified 9–Aug–98–page size 4K–in English [Translate]

5. Giulio Paolini. Project–Neue Galerie . Joanneum Graz: engl
nbsp;deutsch italiano Giulio Paolini Exhibition Biography Pictures Catalogues Homepage Mail
About the Exhibition Project (from a text of...
URL: www.sime.com/neue_galerie/paolini/projekt_e.html
Last modified 9–Mar–98–page size 6K–in English [Translate]

6. Paolini: Short vs long bars
Short vs. small bars. Still working on this... Will be fixed soon. Last modified: July 14, 1997
1993–1997 by Monica Paolini. Back to Spatial and...
URL: phoistos.ucsd.edu/~paolinj/raw_bars.html
Last modified 11–Aug–98–page size 567 bytes–in English [Translate]

Books about Mike Paolini...
Amazon.com Bestsellers

AltaVista Shopping
Visit our Online
Shopping Guide

Featured links
AltaVista Entertainment Site!

Internet zone

DO NOT ENTER